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ABSTRACT

The study examines the extent to which categorical differences exist in the qualitative nature of instruction for mildly handicapped students. Interviews and observations were conducted of 30 learning disabled (LD), 32 emotionally-behaviorally disturbed (EBD), and 30 educable mentally retarded (EMR) students in grades 2-4. Instruction was evaluated in terms of six instructional clusters based on principles of effective instruction: (1) instructional planning, (2) instructional presentation, (3) checking for student understanding, (4) task relevance, (5) practice, and (6) feedback. In general, the average ratings on the instructional clusters were high for all groups. Quality of instruction was very similar for LD and EBD groups. Instruction of EMR students, however, was rated lower on checking for student understanding, instructional presentation, and task relevance. The study raises questions concerning the value of classifying students and suggests more emphasis on monitoring the effectiveness of instruction for each student's progress. (DB)

University of Minnesota

RESEARCH REPORT NO. 5

THE QUALITATIVE NATURE OF INSTRUCTION FOR MENTALLY RETARDED, LEARNING DISABLED, AND EMOTIONALLY DISTURBED ELEMENTARY STUDENTS IN SPECIAL EDUCATION SETTINGS

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Abstract

The extent to which categorical differences exist in the qualitative nature of instruction for mildly handicapped students in special education was examined. Interviews and observations were conducted for 30 LD, 32 EBD, and 30 EMR students. LD and EBD students' instruction was similar on six instructional clusters. EMR students' instruction was rated significantly lower than LD or EBD students' instruction on three instructional clusters. Implications for categorical practices in special education are discussed.

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The Qualitative Nature of Instruction for Mentally Retarded, Learning Disabled, and Emotionally Disturbed Elementary Students in Special Education Settings

Classification practices in special education are premised on the belief that different kinds of handicapped students benefit differentially from different kinds of instruction. Increasing numbers of professionals are questioning classification practices and/or their results (e.g., Reynolds, Wang, & Walberg, 1987; Will, 1986; Ysseldyke, 1987). High rates for special class placement occur (Algozzine, Christenson, & Ysseldyke, 1982) despite considerable concern over the extent to which decisions are data based (Ysseldyke, Algozzine, Richey, & Graden, 1982). Further, decisions are made with an over-reliance on psychometric instruments (Ysseldyke & Christenson, 1987), despite limited evidence on the extent to which such data are able to reliably discriminate between mildly handicapped students and students who are not performing well in school (Hallahan, Keller, & Ball, 1986; Ysseldyke, Algozzine, Shinn, & McGue, 1982). In general, current assessment practices have led to widespread classification of students or description of students' needs without leading to intervention and change.

Assessment information is used to classify students, but often is not considered to be instructionally relevant (Fuchs & Fuchs, 1986). The classification of mildly handicapped students has been criticized because it does not lead to treatment specific interventions and, in fact, may lend to disjointedness in educational programming that results in reduced instructional quality (Reynolds et al., 1987). At a time when categorical labeling practices are questioned, it is important to know whether different kinds of students placed in special education receive different instruction.

We have been engaged in a decade of research that examines the quantitative nature of instruction for elementary students. Specifically, we have examined the nature of the instructional ecology (i.e., time allocated to activities, instructional tasks, and teaching structures) for learning disabled (LD), emotionally-disturbed (EBD), mentally handicapped (EMR), and nonhandicapped (NH) students and the nature of these students' responses to instruction (i.e., active academic responding time, academic engaged time, inappropriate responses, task management responses). In general, our research on the quantitative nature of instruction raises questions about the validity of differential classification practices. For instance, there are minimal differences among categories of students in how time is allocated to various activities across the total school day (Ysseldyke, Thurlow, Christenson, & Weiss, 1987). Significantly less time was allocated to academic instruction for EMR students served in self-contained classes than for LD, EBD, NH, and EMR students served in resource rooms. A greater proportion of time was allocated to academic activities in special education than in regular education. Second, our findings suggest that the same instructional tasks are being used with handicapped and nonhandicapped students, as well as with different types of handicapped students (Ysseldyke, Christenson, Thurlow, & Bakewell, in press). Specifically, there were no differences between LD, EBD, and EMR students in special education settings in the proportion of time spent in readers, paper tasks (workbooks, worksheets, paper and pencil tasks), and other media. In the special education setting, EMR self-contained students spent significantly more time engaged in teacher-focused tasks (listening to lectures and teacher-student discussion). Third, for all handicapped students, a much greater percentage of special education time than of mainstream time is spent in small group and individual

teaching structures (Ysseldyke, Thurlow, Christenson & McVicar, in press). Only EMR students served in self-contained classrooms spent a greater proportion of special education time in entire group instruction. However, it was concluded that this categorical effect was a function of the way in which service was provided (self-contained classroom vs. resource room), rather than a function of the EMR categorical designation. Finally, there are few differences among categories in student responses to instruction (Ysseldyke, Christenson, Thurlow, & Skiba, 1987). Analyses of handicapped students' responses to instruction as a function of handicap category and setting (regular or special) revealed consistent setting effects.

Handicapped students' active academic responding and academic engaged time rates were higher in special education classrooms than in mainstream classrooms; there were no differences among the groups of handicapped students in special education. In terms of categorical differences, EMR-self-contained students spent a greater proportion of time in task management responses and LD students spent a greater proportion of time in looking for materials than did EMR-resource students. Clearly, the lack of differences among categories suggests that instructional ecology variables and student responding patterns provide little basis for current classification practices with mildly handicapped students.

The quantity of instructional time is only one way to look at instructional experiences for students. Time is a necessary but not sufficient condition for improving student achievement. Several researchers echo the need to investigate other factors. Consider the following:

> The value of future classroom research will improve if more attention is placed upon the quality of instruction and if research becomes more integrative, examining the teacher, students, and particular curriculum tasks in specific contexts. (Good, 1983, p. 129)

> Clearly it is the quality more than the quantity of schooling which best serves as an educational and research focus. Quality of schooling includes not only time on task, but time well spent. It also includes, however, time spent on teaching practices such as encouragement, corrective feedback with guidance, small group discussions, individualization, and students involvement in their own education; but not idle praise, corrective feedback without guidance, rambling verbal interactions, busywork as a controlled device, or token student decision making. (Sirotnik, 1983, p. 26)

We do not believe it should be a quantitative vs qualitative issue with regard to instructional time. Rather, as Carroll (1984) poignantly reminds us, it is what happens during the time allowed for learning that is important. Student aptitudes for learning can possibly be improved through proper use of time.

The qualitative nature of instruction for handicapped students has been investigated recently by Sindelar, Smith, Harriman, Hale, and Wilson (1986) and by Algozzine, Morsink, and Algozzine (1986). In their investigation of teachers' instructional behavior and effectiveness in special education settings for LD and EMR elementary students, Sindelar et al. (1986) concluded that the degree to which the teacher was an active participant throughout the instructional period was highly related to reading achievement gain for handicapped students. Of particular relevance to our study is that the 30 teachers used instructional time differently for LD and EMR students. EMR students spent a greater proportion of allocated time in teacher-directed instruction that involved teacher presentation of material, teacher questioning, student questioning, corrective feedback, teacher reinforcement, making assignments and monitoring. LD students worked directly with their teachers during 40% of actual instructional time and EMR students did so during 60% of actual instructional time. In addition, only LD students' reading achievement gain was related to observed classmates' interactions with teachers. The authors qualified their conclusion that teachers taught EMR and LD students

differently and that their students responded differently to certain instructional activities by indicating a need for replication of their findings. Algozzine et al. (1986) conducted classroom observations in special education classrooms for students classified under three different labels: learning disabled, educable mentally retarded, and emotionally disturbed (ED). They found no differences among teachers of ED, EMR, and LD students in the variety of instructional strategies used, effective structuring and use of student time, effective questioning, provision of feedback, effective management strategies, and active student involvement. The only difference revealed was that teachers of EMR students modified instruction less than teachers of ED students.

The purpose of this study was to compare the qualitative nature of instruction in special education for different kinds of handicapped students. What occurs during time spent learning in special education is important for understanding handicapped students' instructional experiences. This report addresses the question: To what extent are there differences in the qualitative nature of instruction for mildly handicapped students labeled learning disabled (LD), emotionally-behaviorally disturbed (EBD), and educable mentally retarded (EMR) in special education settings (resource rooms, special classes)?

Method

Subjects

Subjects were 92 school-identified handicapped students (30 LD, 32 EBD, 30 EMR) from urban and suburban school districts in grades 2-4 (with the exception of one student in grade 5). Fifty students (57%) were from the suburban district and 42 (43%) were from the urban district. The students' classifications (LD, EBD, EMR) were verified by their special education teachers. Identification of LD students presented no problem in either

district. Specific behavioral descriptors were used as guidelines for identifying EBD and EMR students. EBD students were described as students who have chronic task incompletion problems, acting out, behavior difficulties, or social interaction difficulties severe enough to impede academic performance. EMR students were described as students who are functionally academically retarded in all four basic skill areas. Most of the students received their basic skill instruction within special education settings. In some instances, students carried two labels (e.g., LD and EBD). In those cases, students were selected on the basis of their primary classification.

Student demographic data for grade, sex, and race appear in Table 1. The three groups of students were fairly evenly distributed across grades 2-4 and were similar in racial characteristics. More LD and EBD students were male; slightly more EMR students were female. Racial distributions were similar across categories. Age data indicated that the students ranged in age from 91 to 146 months. The average for LD students was 113 months (range = 91-136 months); the average age for EBD students was 115 months (range = 97-137 months); and the average age for EMR students was 119 months (range = 99-146 months).

Participating teachers included 24 special education teachers. The mean number years teaching experience was 15 years (range = 2-30 years). All teachers were female. The majority of teachers held bachelor degrees plus additional credits (n = 10; 41.7%) or master's degrees (n = 6; 25.0%). Three teachers (12.5%) held a bachelor's degree only, while 5 teachers (20.8%) held a master's degree plus additional credits.

Table 1

Student Demographic Information by Category[a]

	LD (N=30)	EBD (N=32)	EMR (N=30)
Grade			
2	11 (36.7)	8 (25.0)	10 (33.3)
3	8 (26.7)	12 (37.5)	7 (23.3)
4	11 (36.7)	12 (37.5)	12 (40.0)
5	0 ---	0 ---	1 (3.3)
Sex			
Male	20 (66.7)	22 (68.8)	13 (43.3)
Female	10 (33.3)	10 (31.3)	17 (56.7)
Race			
Black	8 (26.7)	12 (37.5)	7 (23.3)
Asian	1 (3.3)	0 ---	2 (6.7)
White	21 (70.0)	19 (59.1)	20 (66.7)
Hispanic	0 ---	0 ---	0 ---
Native American	0 ---	1 (3.3)	0 ---
Other/Blank	0 ---	0 ---	1 (3.3)

[a]Entries represent frequencies and percentages (in parentheses) for each category: LD = learning disabled, EBD = emotionally/behaviorally disturbed, and EMR = educable mentally retarded.

Teachers and students were volunteer participants in the study. Students were randomly selected within category with two restrictions: (a) parent permission for student participation, and (b) no mainstream teacher would have more than two students and no special education teacher would have more than four students involved in the study unless willing to do so.

Observation System

The Instructional Environment Scale (IES) describes the qualitative nature of instruction for an individual student. IES is a comprehensive system involving classroom observation, teacher interview, and student interview prior to completing a 40-item qualitative rating scale about principles of effective instruction. The observer rated each item on a four point Likert-type scale indicating the degree to which the statement is characteristic of the target student's instruction. The ratings range from "very much like the student's instruction" to "not at all like the student's instruction." Observers could also select NA (not applicable) for 5 items or ? (can't tell) for all items. Observers were trained to rate each item using the four point Likert-type scale; only in clearly specified situations could they select NA (Ysseldyke, Christenson, McVicar, Bakewell, & Thurlow, 1986).

The teacher interview is comprised of 20 questions about those areas more difficult to understand through observation only (e.g., instructional planning decisions). On average, the interview took 30 minutes to complete, the range was from 20 to 45 minutes. The student interview included eight questions about the student's perceptions of the tasks assigned and also provided data on the student's success rate for the assignments during the second day of observation. Four of the questions were presented in either three or four point Likert-type

format, these were accompanied by cartoon-like pictures to aid the students' understanding of the ratings.

Observers

Six data collectors were responsible for the majority of the instructional ratings. Substitute observers used for reasons of sickness, make-up observations, or scheduling difficulties, were project staff members who had conducted observer training sessions and monitored the regular data collectors. The regular data collectors were all females who had been selected from a pool of 100 male and female applicants who had responded to an ad in a local newspaper. A prerequisite for consideration was that the applicant be willing to work on a variable, almost "on-call" schedule and that he/she be open-minded and not strongly opinionated about educational issues. The goal was to minimize biases that might be brought to the classroom setting. Screening tests and a personal interview with two project staff members were used as the final steps in selection.

Of the six selected data collectors, five had completed college and three were former teachers. Previous employment for all observers varied greatly, including sales, clerical, education, foster parent, business owner, and social worker. All but two observers had a child or children in elementary or secondary schools. Observers did not work in schools in which their children were enrolled.

Procedures

Training of IES observers in the observation and interview system was accomplished through the use of the IES training manual (Ysseldyke et al., 1986). Training required observers to read materials, to learn definitions for each item, and to integrate multiple sources of information. Discussion of

rating considerations and practice rating items through the use of written examples, video tapes, and classroom practice was used extensively. Using IES required making global, integrative judgments; therefore, training involved much discussion and viewing of videotapes. A major focus of training was to learn to describe rather than evaluate or judge instruction.

Training was shared by four project staff members. Two weeks of half-day training sessions were required to cover the material presented in the manual. This was followed by two to three days of additional practice coding within actual classrooms.

Data collection occurred between November and May. Students were observed on two consecutive days in their special education classes. Two 45-minute observations on consecutive days were requested. The average length of the special education class observation was 43 minutes for day 1 (range = 10 to 90 min) and 44 minutes for day 2 (range = 15 to 90 min). LD, EBD and 10 EMR students were served in resource rooms. The remaining EMR students (N = 20) were served in one of five self-contained classrooms. Four of the five self-contained classrooms were cross categorical placements.

The preferred data collection sequence was completion of two classroom observations, student interview, and teacher interview. The student interview was conducted as close in time to completion of the observation as possible to reduce student forgetting about the observed lesson. Variations from this sequence were due to classroom scheduling difficulties and teacher preferences. In most cases, the teacher and student interviews were conducted on the day of the second observation. In some cases, to meet teacher schedules, teacher interviews were conducted before school on the day after the second observation. The data collector rated each statement on IES after all observations and interviews were completed.

All observations and interviews were scheduled at the teacher's convenience and the student's name was revealed to the classroom teacher at the time of scheduling. Revealing the student's identity may bias the results in a positive direction. Teachers were told that we were interested in how different kinds of students respond to instruction and were asked to respond typically during the classroom observations. Teachers introduced the data collectors by explaining they were here to see what second, third, or fourth graders do in school. Although the observers were never told the student's classification or level of service, it was impossible to keep observers blind about the designation as the handicapped.

Inter-rater Agreement

Eighteen checks for inter-rater agreement were conducted throughout the study. Two observers were present for all parts of the data collection process (observations and interviews). Inter-rater agreement was computed in two ways: grouped and exact. Grouped inter-rater agreement was calculated by combining ratings of "1" and "2" and by combining ratings of "3" and "4". Exact agreement did not involve combining ratings. Since IES is a qualitative rating scale requiring the data collector to make global, integrative judgments about a complex area, the minimum desired inter-rater agreement was 50% on exact items and 75% on grouped items. The average agreement on exact was 60% (range = 35% to 85%) and on grouped was 84% (range = 70 to 95%).

To maintain adequate levels of inter-rater agreement throughout the study, the observers discussed their areas of disagreement after each inter-rater agreement check. This discussion occurred the same day, outside the school setting. In addition, semi-monthly meetings involving all observers were held to discuss coding problems and disagreements.

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Data Analysis

For data analysis purposes, instructional clusters were formed and an adaptation was made to handle the NA and ? ratings. The 40 items describing aspects of instruction on the IES were grouped into six instructional clusters on a theoretical and conceptual, rather than empirical, basis. The number of subjects was not large enough to factor analyze a 40 item scale.

The six instructional clusters used in data analysis were: Instructional Planning, Instructional Presentation, Checking for Student Understanding, Task Relevance, Practice, and Feedback. The categorization of individual items into the six instructional clusters is provided in Table 2. A brief description of each cluster follows.

- Instructional Planning: Five items describe critical aspects of instructional planning, such as instructional match, curriculum sequence, goals, acceptable standards of performance, and classroom management procedures.

- Instructional Presentation: Twelve items describe important aspects of developing and presenting an effective lesson, including instructional clarity (e.g., cues, modeling, clearly stated goals), opportunities for a student to respond, appropriate use of motivational techniques, and a well-paced lesson.

- Checking for Student Understanding: Eight items describe important aspects of checking student understanding of how to perform the task accurately and monitoring student performance to ensure attention and progress toward achieving instructional goals.

- Task Relevance: Six items describe important aspects of providing an academically relevant task to the student, including congruence between the lesson explanation and practice activity, appropriateness of success rate, adequacy of student understanding, and adequate academic engaged time.

- Practice: Four items describe important aspects of practice activities, including amount of practice, variety and type of practice, and information on homework assignments.

- Feedback: Five items describe important aspects of feedback including specificity and frequency, use of corrective procedures, and communication to the student.

Table 2

IES Items Categorized into Six Instructional Factors

Instructional Planning

- There is a good match between student's instructional needs and instruction delivered.
- There is a logical sequence to instruction.
- The goals of instruction are clear and specific.
- The expectations for student performance are clear and specific.
- Classroom management procedures allow for efficient use of instructional time for the student.

Instructional Presentation

- An adequate overview of the lesson is given.
- The student is provided with cues, verbal explanations, demonstrations, concrete examples, and/or generalizations.
- Verbal explanation specifies what the student is to think about when solving problems or performing the assigned task.
- Initial student instruction is characterized by a high frequency of teacher questions and active student participation.
- During the lesson presentation the goals of instruction are clearly communicated.
- Task directions are clear, understandable, and provide sufficient detail.
- The student is expected to be an active and involved learner.
- The student is informed of why the lesson is important.
- The instructional environment is positive, relaxed, and characterized by a lot of teacher interest for what is being taught.
- Special motivational techniques are implemented to foster student achievement.
- During lesson presentation, the student's attention is gained and maintained.
- The pacing of the lesson facilitates student attention.

Checking for Student Understanding

- The student demonstrates the ability to perform the skills/content taught before beginning independent practice.
- When given practice, the first items of the task are checked by the teacher.
- During practice, any error found by the teacher is re-done under the teacher's supervision.
- The student is asked to explain his/her answer or the process being used.
- Seatwork is actively monitored by the teacher.
- During seatwork, the teacher ensures the student's attention is maintained.
- Records are maintained of the student's progress toward mastery of specific objectives.
- Student performance data are used to make subsequent instructional decisions.

Table 2 (continued)

Task Relevance

- Independent student practice is directly relevant to the lesson presentation or guided practice.
- The student performs the assigned work independently at an appropriate success rate.
- The student clearly understands why the assigned work is important.
- The student understands the task directions in seatwork or practice exercises.
- The student understands how to perform the assignment in seatwork or practice exercises.
- The student works hard, spending little time waiting for help, getting organized, or talking about personal matters to other students or the teacher.

Practice

- Ample opportunities exist for classroom practice.
- The skill/content taught is practiced in varied ways or with varied materials to facilitate generalizations.
- Student practice of basic skills is continued to automaticity (90-100% accurate rapid responses).
- Homework is assigned and reviewed with the student.

Feedback

- Feedback is explicit regarding the accuracy/inaccuracy of the student's responses.
- Feedback is characterized by task-specific praise or encouragement.
- Corrective feedback is provided through one or more of the following procedures: re-explanation, re-explanation using a different approach if the student continues to have difficulty, modeling of correct process and reasoning, and provision of cues to the student.
- Upon completion of an assignment, the student receives immediate knowledge of results.
- The student is informed of progress toward mastery of the instructional objectives.

The two ratings, ? and NA's, were counted as missing items. If the total number of missing items for a student was more than five, the case was dropped from the analysis. This occurred for eight cases. If the total number of missing items was five or less, the mean for the scale was assigned for each missing item. There was no instance where there was more than one missing item per instructional cluster.

One way analysis of variance was used to test for differences in instructional clusters and total scores on the IES for different categories of students within the special education setting. A .05 level of significance was adopted for this analysis. The qualitative nature of instruction for handicapped students also was examined on an individual item level. A .01 level of significance was adopted due to the large number of tests (i.e., 40 one-way ANOVAs).

Results

Reliability Analysis

Alpha reliability coefficients for the total scale and for each instructional cluster for LD, EBD, and EMR students in special education classes appears in Table 3. Coefficient alpha is an estimate of internal consistency and provides a lower bound estimate of the theoretical composite reliability or coefficient of precision. With the exception of the Practice instructional cluster, the reliability coefficients were found to be quite high. The total score alpha coefficient is .90, indicating a high degree of internal consistency.

Table 3

Alpha Reliability Coefficients for Students in Special Education Settings

Variable	Special Education (n = 84)[a]
Total Scale	.90
Cluster	
Instructional Planning	.64
Instructional Presentation	.80
Checking for Student Understanding	.76
Task Relevance	.59
Practice	.30
Feedback	.79

[a]The number of special education students is less than the total sample because of missing items.

Frequencies of IES Ratings

The percentages of students receiving each IES rating (1-4, NA, and ?) for each instructional factor are presented in Tables 4-9. These data are described in this section.

Instructional planning. The percentages of students receiving each IES rating for individual items characterizing handicapped students' instructional planning are listed in Table 4. For all groups of students, most of the items were rated "very much like" or "somewhat like" the students' instruction. The range of responses across the five items for LD, EBD, and EMR was least for LD students and greatest for EBD students. The "can't tell" (?) selection was used for the EBD group on three items: instructional match, instructional sequence, and classroom management procedures.

Instructional presentation. The percentages for items in the instructional Presentation cluster are given in Table 5. Some aspects of presenting lessons to students occurred with a high frequency, some with fairly even representation across the four IES ratings, and some with low frequency. For example, instruction was characterized by use of verbal explanations, demonstrations, and/or cues for students in all three groups. Clear communication of the goals of instruction, however, occurred for some students and not others in each handicap category. An adequate overview of material occurred less often for all groups of students. LD and EMR students were most often not informed of why the lesson is important, whereas, many EBD students were informed of the rationale for the lesson. The two additional ratings, NA and ?, were used only when rating instruction for EBD students. These ratings were used on 11 of 12 items characterizing the student's instructional presentation. They were not used in rating the use of special motivational strategies.

Table 4

Percentages of IES Ratings for Instructional Planning Items[a]

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Match			
4	70.0	50	66.7
3	30.0	31.3	23.3
2	----	3.1	3.3
1	----	3.1	6.7
NA	----	----	----
?	----	12.5	----
Logical sequence			
4	93.3	62.5	80.0
3	6.7	15.6	20.0
2	----	6.3	----
1	----	3.1	----
NA	----	----	----
?	----	12.5	----
Goals of instruction			
4	86.7	81.3	80.0
3	13.3	12.5	16.7
2	----	----	3.3
1	----	6.3	----
NA	----	----	----
?	----	----	----
Expectations for student performance			
4	86.7	71.9	86.7
3	13.3	9.4	10.0
2	----	15.6	3.3
1	----	3.1	----
NA	----	----	----
?	----	----	----
Management procedures			
4	53.3	46.9	66.7
3	33.3	12.5	23.3
2	13.3	9.4	6.7
1	----	9.4	3.3
NA	----	----	----
?	----	21.9	----

[a]IES ratings include 4 = very much like, 3 = somewhat like, 2 = not much like, 1 = not at all like the student's instruction, NA = not applicable, and ? = can't tell.
[b]See Table 2 for exact wording of items.

Table 5

Percentages of IES Ratings for Instructional Presentation Items[a]

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Adequate overview			
4	20.0	21.9	3.3
3	20.0	15.6	26.7
2	23.3	18.8	40.0
1	36.7	25.0	40.0
NA	----	----	----
?	----	18.8	----
Cues, explanations, etc.			
4	46.7	59.4	40.0
3	43.3	21.9	43.3
2	3.3	----	10.0
1	6.7	----	6.7
NA	----	----	----
?	----	18.8	----
Verbal explantion of what to think about			
4	43.3	34.4	26.7
3	23.3	25.0	26.7
2	16.7	15.6	16.7
1	16.7	6.3	30.0
NA	----	----	----
?	----	18.8	----
Teacher questions and active student participation			
4	66.7	56.3	63.3
3	23.3	21.9	26.7
2	10.0	----	3.3
1	----	3.1	6.7
NA	----	----	----
?	----	18.8	----
Goals communicated			
4	33.3	31.3	30.0
3	26.7	18.8	13.3
2	23.3	9.4	16.7
1	16.7	18.8	40.0
NA	----	----	----
?	----	18.8	----
BLANK		3.1	

Table 5 (cont'd)

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Task directions			
4	86.7	62.5	76.1
3	13.3	6.3	13.3
2	----	9.4	----
1	----	----	10.0
NA	----	3.1	----
?	----	18.8	----
Student expected to be active and involved			
4	86.7	68.8	83.3
3	13.3	12.5	16.7
2	----	3.1	----
1	----	3.1	----
NA	----	----	----
?	----	12.5	----
Student informed why lesson is important			
4	13.3	34.4	6.7
3	13.3	15.6	6.5
2	16.7	6.3	23.3
1	56.7	25.0	63.3
NA	----	----	----
?	----	18.8	----
Classroom environment			
4	73.3	62.5	53.3
3	23.3	9.4	33.3
2	3.3	6.3	10.0
1	----	3.1	3.3
NA	----	----	----
?	----	18.8	----
Special motivational techniques			
4	40.0	65.5	60.0
3	40.0	12.5	26.7
2	13.3	9.4	6.7
1	6.7	12.5	6.7
NA	----	----	----
?	----	----	----

Table 5 (cont'd)

Individual Item[b]	LD (n=30)		EBD (n=32)		EMR (n=30)	
Student attention gained and maintained						
4	24	80.0	20	62.5	23	76.7
3	5	16.7	5	15.6	5	16.7
2	--	----	1	3.1	2	6.7
1	1	3.3	--	----	--	----
NA	--	----	--	----	--	----
?	--	----	6	18.8	--	----
Pacing of lesson						
4	18	60.0	14	43.8	17	56.7
3	9	30.0	9	28.1	9	30.0
2	3	10.0	2	6.3	2	6.7
1	--	----	--	----	2	6.7
NA	--	----	--	----	--	----
?	--	----	7	21.9	--	----

[a]IES ratings include 4 = very much like, 3 = somewhat like, 2 = not much like, 1 = not at all like the student's instruction, NA = not applicable, and ? = can't tell.

[b]See Table 2 for exact wording of items.

Checking for student understanding. The percentages for ratings on individual items comprising the Checking for Student Understanding cluster are in Table 6. While the range of IES responses for each item is 1 to 4 for each category of student, EMR students' frequency of 1 and 2 ratings ("not much like" or "not at all like") is higher than for LD or EBD students. The NA and ? responses were used most often with EBD students. The NA rating was used with comparable frequency for LD, EBD, and EMR students on the item measuring error correction by the teacher. The "NA" rating means that these students did not make an error during practice time.

Task relevance. The percentages for individual items within the Task Relevance cluster are presented in Table 7. The frequencies of 3 and 4 ratings ("somewhat like" and "very much like") were the highest for each group of students on the six items, with the exception of the EMR group on the items describing the student's success rate and understanding of the rationale for the assigned work. Only about one-half of the EMR students completed assigned work with an appropriate success rate or understood why the work was important. The two additional ratings, NA and ?, were used most often with the EBD group.

Practice. The percentages for individual items in the Practice cluster are shown in Table 8. Of the four items characterizing instructional practice, three of the items are rated most often as characteristic (ratings of 3 or 4) of LD, EBD, and EMR students' instruction. Homework is assigned and reviewed with LD, EBD, and EMR students infrequently; of the three handicap groups, EMR students most often had homework that was reviewed. The NA and ? ratings were most often used with EBD students.

Feedback. The percentages of IES ratings for individual items in the Feedback cluster are in Table 9. For all groups of students, the most frequent

Table 6

Percentages of IES Ratings for Checking for Student Understanding Items[a]

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Student demonstrates before independent practice			
4	60.0	28.1	40.0
3	20.0	28.1	23.3
2	10.0	3.1	3.3
1	6.7	12.5	30.0
NA	----	----	----
?	3.3	28.1	3.3
First practice items checked by teacher			
4	66.7	46.9	46.7
3	16.7	6.3	10.0
2	10.0	6.3	13.3
1	3.3	18.8	30.0
NA	----	----	----
?	3.3	21.9	----
Errors re-done under teacher supervision			
4	50.0	28.1	33.3
3	13.3	6.3	10.0
2	----	3.1	13.3
1	6.7	3.1	13.3
NA	26.7	37.5	30.0
?	3.3	21.9	----
Student asked to explain			
4	50.0	28.1	20.0
3	10.0	21.9	16.7
2	23.3	12.5	20.0
1	16.7	15.6	43.3
NA	----	----	----
?	----	21.9	----
Seatwork actively monitored			
4	80.0	50.0	36.7
3	20.0	6.3	26.7
2	----	6.3	16.7
1	----	15.6	20.0
NA	----	----	----
?	----	21.9	----

Table 6 (cont'd)

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Student attention maintained			
4	73.3	53.1	43.3
3	23.3	15.6	36.7
2	3.3	3.1	10.0
1	----	3.1	10.0
NA	----	----	----
?	----	25.0	----
Records of student progress			
4	80.0	87.5	90.0
3	13.3	6.3	10.0
2	3.3	----	----
1	3.3	3.1	----
NA	----	----	----
?	----	3.1	----
Performance data used to make decisions			
4	76.7	43.8	96.7
3	6.7	12.5	3.3
2	6.7	3.1	----
1	----	3.1	----
NA	----	----	----
?	----	----	----

[a]IES Ratings include 4 = very much like, 3 = somewhat like, 2 = not much like, 1 = not at all like the student's instruction, NA = not applicable, and ? = can't tell.

[b]See Table 2 for exact wording of items.

Table 7

Percentages of IES Ratings for Task Relevance Items[a]

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Practice directly relevant to lesson			
4	76.7	43.8	80.0
3	6.7	12.5	13.3
2	6.7	6.3	----
1	----	12.5	3.3
NA	----	----	----
?	10.0	25.0	3.3
Appropriate success rate			
4	60.0	21.9	36.7
3	20.0	6.3	16.7
2	3.3	9.4	23.3
1	6.7	9.4	20.0
NA	10.0	31.3	3.3
?	----	21.9	----
Understands why assigned work is important			
4	30.0	25.0	10.0
3	26.7	34.4	23.3
2	13.3	3.1	20.0
1	30.0	18.8	46.7
NA	----	----	----
?	----	18.8	----
Understands task directions			
4	70.0	53.1	56.7
3	23.3	25.0	26.7
2	6.7	----	10.0
1	----	----	6.7
NA	----	----	----
?	----	21.9	----
Understands how to perform assignment			
4	70.0	50.0	46.7
3	20.0	25.0	40.0
2	6.7	----	6.7
1	3.3	3.1	6.7
NA	----	----	----
?	----	21.9	----

Table 7 (cont'd)

Individual Item[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Little time waiting, etc.			
4	60.0	37.5	43.3
3	23.3	25.0	26.7
2	10.0	9.4	13.3
1	6.7	6.3	16.7
NA	----	----	----
?	----	21.9	----

[a]IES ratings include 4 = very much like, 3 = somewhat like, 2 = not much like, 1 = not at all like the student's instruction, NA = not applicable, and ? = can't tell.

[b]See Table 2 for exact wording of items.

Table 8

Frequencies of IES Ratings for Practice Items[a]

Individual Items[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Classroom practice opportunities			
4	86.7	56.3	80.0
3	10.0	25.0	16.7
2	3.3	3.1	13.3
1	----	6.3	----
NA	----	----	----
?	----	9.4	----
Varied practice or materials			
4	73.3	37.5	46.7
3	20.0	34.4	46.7
2	6.7	6.3	6.7
1	----	15.6	----
NA	----	----	----
?	----	6.3	----
Practice continued to automaticity			
4	70.0	21.9	40.0
3	16.7	3.1	16.7
2	6.7	3.1	6.7
1	----	6.3	16.7
NA	6.7	62.5	16.7
?	----	3.1	3.3
Homework assigned and reviewed			
4	----	9.4	10.0
3	3.3	3.1	16.7
2	3.3	12.5	20.0
1	93.3	75.0	53.3
NA	----	----	----
?	----	----	----

[a]IES ratings include 4 = very much like, 3 = somewhat like, 2 = not much like, 1 = not at all like the student's instruction, NA = not applicable, and ? = can't tell.

[b]See Table 2 for exact wording of items.

ratings were 3 or 4 for the five items characterizing instructional feedback. The two additional ratings, NA and ?, were used most often with EBD students.

Categorical Differences for Instructional Clusters.

One way analyses of variance were used to compare instructional differences for LD, EBD, and EMR students on the six instructional clusters and total score IES ratings. Means, standard deviations, and ranges for instructional clusters and total IES scores for these groups of students are presented in Table 10. The mean ratings for all groups of students were at the high end of the four point scale, suggesting that instruction is "somewhat like" or "very much like" each of the instructional clusters assessed. There were no differences in Instructional Planning, Practice, or Feedback for LD, EBD, and EMR students taught in special education settings.

Significant differences between the three groups of handicapped students emerged on three of the six instructional clusters and on the IES total score. EMR students were rated the lowest on Instructional Presentation, Checking for Student Understanding, Task Relevance, and the total IES score. Post-hoc tests using the Student-Newman-Keuls procedure indicated that the Instructional Presentation cluster was rated significantly higher for EBD students than for EMR students, F (2, 81) = 3.45, $p < .04$. LD, EBD, and EMR students' means for individual items comprising the Instructional Presentation cluster are listed in Table 11. The Checking for Student Understanding cluster was rated significantly higher for LD and EBD students than for EMR students, F (2, 81) = 6.43, $p < .01$ (see Table 10). LD, EBD, and EMR students' means for individual items comprising the Checking for Student Understanding cluster are shown in Table 12. The Task Relevance cluster was rated significantly higher for LD

Table 9

Frequency of IES Ratings for Feedback Items[a]

Individual Items[b]	LD (n=30)	EBD (n=32)	EMR (n=30)
Explicit about accuracy			
4	76.7	62.5	63.3
3	16.7	12.5	10.0
2	6.7	6.3	20.0
1	----	----	6.7
NA	----	----	----
?	----	18.8	----
Task-specific praise			
4	80.0	62.5	50.0
3	10.0	9.4	36.7
2	6.7	9.4	10.0
1	3.3	----	3.3
NA	----	----	----
?	----	18.8	----
Corrective feedback			
4	46.7	46.9	43.3
3	33.3	18.8	20.0
2	3.3	3.1	3.3
1	6.7	----	10.0
NA	10.0	12.5	20.0
?	----	18.8	----
BLANK			3.3
Immediate knowledge of results			
4	93.3	75.0	93.3
3	3.3	12.5	6.7
2	----	----	----
1	3.3	12.5	----
NA	----	----	----
?	----	----	----
Student informed of progress			
4	60.0	78.1	53.3
3	30.0	12.5	40.0
2	6.7	6.3	6.7
1	3.3	3.1	----
NA	----	----	----
?	----	----	----

[a]IES ratings include 4 = very much like, 3 = somewhat like, 2 = not much like, 1 = not at all like the student's instruction, NA = not applicable, and ? = can't tell.

[b]See Table 2 for exact wording of items.

Table 10

Instructional Differences by Category in Special Education Classrooms[a]

Instructional Cluster	LD (n = 30)	EBD (n = 24)	EMR (n = 30)	Significance Level[b]
Instructional Planning				
$\bar{X}$	3.8	3.6	3.7	ns
SD	.26	.50	.39	
Range	3.0-4.0	2.4-4.0	2.4-4.0	
Instructional Presentation				
$\bar{X}$	3.2	3.4	3.0	.036
SD	.41	.48	.53	
Range	2.3-3.8	2.3-4.0	1.3-3.4	
Checking for Student Understanding				
$\bar{X}$	3.5	3.4	3.0	.003
SD	.43	.56	.63	
Range	2.4-4.0	2.3-4.0	1.8-4.0	
Task Relevance				
$\bar{X}$	3.4	3.2	3.0	.013
SD	.37	.55	.62	
Range	2.3-4.0	2.0-4.0	1.7-4.0	
Practice				
$\bar{X}$	3.1	2.9	3.0	ns
SD	.28	.53	.50	
Range	2.3-3.5	2.0-4.0	2.0-3.8	
Feedback				
$\bar{X}$	3.6	3.7	3.5	ns
SD	.56	.47	.56	
Range	1.8-4.0	2.4-4.0	2.0-4.0	
Total Score				
$\bar{X}$	3.4	3.4	3.2	.024
SD	.29	.40	.43	
Range	2.6-3.9	2.5-3.9	2.2-3.7	

[a]Categories are: LD = learning disabled, EBD = emotionally/behaviorally disturbed, EMR = educable mentally retarded.
[b]Significance levels are from one-way Anova (df = 2,81).

Table 11

Instructional Presentation Items for LD, EBD, and EMR Students in Special Education Settings[a]

Individual Items[b]	LD (n = 30)	EBD (n = 24)	EMR (n = 30)
An adequate overview of the lesson is given.	2.2	2.4	1.9
The student is provided with cues, verbal explanations, demonstrations, concrete examples, and/or generalizations.	3.3	3.8	3.2
Verbal explanation specifies what the student is to think about when solving problems or performing the assigned task.	2.9	3.1	2.5
Initial student instruction is characterized by a high frequency of teacher questions and active student participation.	3.6	3.6	3.5
During the lesson presentation the goals of instruction are clearly communicated.	2.8	2.8	2.3
Task directions are clear, understandable, and provide sufficient detail.	3.9	3.8	3.6
The student is expected to be and active and involved learner.	3.9	3.8	3.8
The student is informed of why the lesson is important.	1.8	2.6	1.6
The instructional environment is positive, relaxed, and characterized by a lot of teacher interest for what is being taught.	3.7	3.6	3.4
Special motivational techniques are implemented to foster student achievement.	3.1	3.6	3.4
During lesson presentation, the student's attention is gained and maintained.	3.7	3.7	3.7
The pacing of the lesson facilitaties student attention.	3.5	3.4	3.4

[a]Categories are: LD = learning disabled, EBD = emotionally/behaviorally disturbed, EMR = educable mentally retarded.

[b]Entries are for individual items comprising Instructional Presentation cluster.

students than for EMR students, F (2, 81) = 4.60 $p < .02$ (see Table 10). LD, EBD, and EMR students' means for individual items comprising the Task Relevance cluster are listed in Table 13. The total score on IES was rated significantly higher for LD and EBD students than for EMR students, F (2, 81) = 3.91, $p < .03$ (see Table 10). In sum, differences in the qualitative nature of instruction occurred between EMR students and LD or EBD students. There were no differences in instruction between LD and EBD students.

One way analyses of variance were used to identify differences between the three handicap groups on each of the 40 IES items. A .01 level of significance was adopted because of the large number of tests run. Post-hoc tests using the Student-Newman-Keuls procedure indicated differences between the groups for the five IES items in Table 14. The differences may be influenced by the content of special education lessons in that EBD students were most often observed in social skills group. Thus, the lesson naturally emphasized "whys" while teaching appropriate behavior through discussion and role playing. This setting resulted in little active monitoring of seatwork, no practice of skills to the point of automaticity, and difficulties in rating success rates for individual students. LD students had a lower rating on the homework item, which could mean either that they recieved fewer homework assignments or that the homework assignments they received were not reviewed.

Variability

Although the average ratings for all groups of students on each instructional cluster were high, there was remarkable variability for each group (see Table 10). With the exception of the Practice and Feedback clusters, the ranges are greatest for the EMR students. Variability was the smallest for LD

Table 12

Checking for Student Understanding Items for LD, EBD, and EMR Students in Special Education Settings[a]

Individual Items[b]	LD (n = 30)	EBD (n = 24)	EMR (n = 30)
The student demonstrates the ability to perform the skills/content taught before beginning independent practice.	3.4	3.1	2.8
When given practice, the first items of the task are checked by the teacher.	3.5	3.1	2.7
During practice, any error found by the teacher is re-done under the teacher's supervision.	3.5	3.4	3.0
The student is asked to explain his/her answer or the process being used.	2.9	2.9	2.1
Seatwork is actively monitored by the teacher.	3.8	3.3	2.8
During seatwork, the teacher ensures the student's attention is maintained.	3.7	3.6	3.1
Records are maintained of the student's progress toward mastery of specific objectives.	3.7	3.9	3.9
Student performance data are used to make subsequent instructional decisions.	3.8	3.8	4.0

[a]Categories are: LD = learning disabled, EBD = emotionally/behaviorally disturbed, EMR = educable mentally retarded.

[b]Entries are for individual items comprising the Checking for Student Understanding cluster.

Table 13

Task Relevance Items for LD, EBD, and EMR Students in Special Education Settings[a]

Individual Items[b]	LD (n = 30)	EBD (n = 24)	EMR (n = 30)
Independent student practice is directly relevant to the lesson presentation or guided practice.	3.8	3.3	3.7
The student performs the assigned work independently at an appropriate success rate.	3.5	3.1	2.7
The student clearly understands why the assigned work is important.	2.6	2.7	2.0
The student understands the task directions in seatwork or practice exercises.	3.6	3.7	3.3
The student understands how to perform the assignment in seatwork or practice exercises.	3.6	3.5	3.3
The student works hard, spending little time waiting for help, getting organized, or talking about personal matters to other students or the teacher.	3.4	3.2	3.0

[a]Categories are: LD = learning disabled, EBD = emotionally/behaviorally disturbed, EMR = educable mentally retarded.

[b]Entries are for individual items comprising the Task Relevance cluster.

Table 14

Significant Instructional Differences for Handicapped Students[a]

IES Item	LD	EBD	EMR	
The student is informed by the lesson is important.	1.8	2.6	1.6	EBD>LD,EMR
Seatwork is actively monitored by the teacher.	3.8	3.3	2.8	LD>EBD,EMR
The student performs the assigned work at an appropriate success rate.	3.1	1.7	2.6	EMR,LD>EBD
Student practice of basic skills is continued to automaticity (90-100% accurate rapid responses).	3.4	1.5	2.4	LD>EMR LD,EMR>EBD
Homework is assigned and reviewed with the student.	1.1	1.6	1.8	EBD,EMR>LD

[a]Entries are mean ratings for handicapped students on items. Results are from one way anovas (df = 2,81) with .01 as the criterion used for significance.

students on the Instructional Planning cluster. The variability for the three handicap groups is illustrated in Figure 1. Clearly, each handicapped student, regardless of categorical designation, has a unique instructional experience.

Discussion

The purpose of this study was to describe the qualitative nature of instruction for LD, EBD, and EMR students in special education settings, and to identify instructional differences in special education for the three handicap groups. In general, the average ratings on the instructional clusters were high for all groups, indicating that handicapped students' instruction reflected principles of effective instruction. However, relatively high average ratings may be less than is needed for special instruction for students with handicaps. Handicapped students probably need more consistently to have their instruction be "very much like" (a rating of "4") effective instruction rather than only "somewhat like" (a rating of "3") effective instruction. Thus, the high ratings obtained in this study still may not be high enough.

Overall, there were few differences in special education instruction as a function of categorical designation. Instruction was rated similarly for LD and EBD students; differences in ratings were for EMR students only. Of 18 possible areas of difference (i.e., 6 instructional clusters and 3 handicap groups), four differences were found. EMR students' instruction was rated lower on checking for student understanding than was instruction for both LD and EBD students, lower on instructional presentation than was instruction for EBD students and lower on task relevance than was instruction for LD students. Thus, the degree to which instruction was characterized by an explicit lesson explanation with substantive teacher-student interaction, followed by adequate success on an

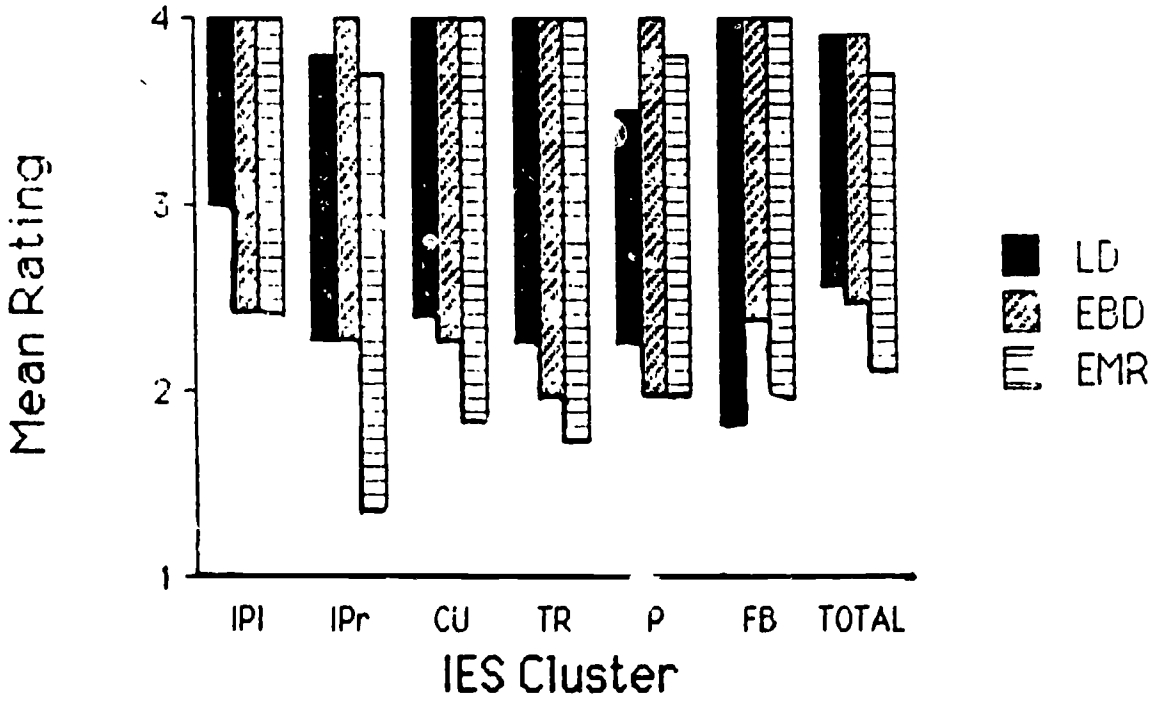

Figure 1. Variability in Ratings on IES Clusters for Three Groups

academically relevant task with sufficient teacher monitoring and frequent checking for student understanding was lower for EMR students. It appears that there are differences in the "meat" of instruction, rather than in the more mechanical, or perhaps thoroughly trained, aspects of instruction. All students' instruction, regardless of categorical designation, was similar in determining the students' instructional needs (i.e., Instructional Planning), kinds and amount of practice (i.e., Practice), and frequency and explicitness of feedback (i.e., Feedback). The difference for EMR students' instruction lies in the prescriptive and interactive aspects of instruction.

Explaining the instructional differences for EMR students is difficult. Perhaps the differences are due to perceived student characteristics, specifically degree of learning problem reflected in students' observed learning rates. Many individuals assume that EMR students learn at a much slower rate than LD and EBD students. It may be that EMR students' instruction is influenced by teacher expectations or perceptions about the learning potential of the student. This possibility is supported by Rolison and Medway's (1985) finding that teachers express higher expectations for students with learning disabilities compared to students with mental retardation. In conjunction with this, teachers' beliefs in their abilities to instruct students, particularly slow progressing or low performing students, has been found in teacher efficacy research to be related to instructional effectiveness (Ashton & Webb, 1986; Berman & McLaughlin, 1977). We do not know what has contributed to the lower ratings for the EMR students on three critical instructional variables; however, we do know that these variables are particularly important for increasing students' academic engaged and responding times, both of which are positive correlates of academic achievement (Anderson, 1984; Brophy, 1986; Good, 1983).

What is clear is that EMR students' instructional time needs further investigation. We would suggest that intervention-focused research with this group on proper use of instructional time aimed at improving student aptitudes (Carroll, 1984) would be a worthwhile endeavor.

One of the most striking findings of this study was the considerable variability for the three handicap groups on the qualitative aspects of instruction. Clearly, instruction for students within the same categorical designation is not similar. Also, placement in special education does not mean instruction is similar nor that placement in special education provides the needed intervention. One LD student's instruction was rated "not much like" on checking for student understanding, while another LD student's instruction was rated as "very much like" on checking for student understanding. One EMR student's instruction was rated as "not at all like" on Task Relevance while another EMR student's instruction was rated as "very much like" on Task Relevance. These kinds of differences in instruction, particularly if they happen day after day, result in differences in students' opportunity to learn and performance levels. A comparison of the ranges for LD, EBD, and EMR students' ratings on the six instructional clusters (see Table 10 or Figure 1) suggests that within group variability is as great as between group variability. Our data suggest that educators must analyze the instructional environments for individual students by accounting for the presence or absence of principles of effective instruction.

The value of classifying students is questioned. There are handicapped students, and regardless of categorical designation, these students need to be taught effectively. Our findings suggest that these students, regardless of categorical designation, have different instructional experiences. In some

cases, the instructional experiences result in less effective instructional environments. The instructional clusters, which provide measures of the instructional environment for individual students, are variables identified by the literature as important for promoting active responding times for handicapped students (Ysseldyke, Christenson, & Thurlow, 1987). We contend that educators need to move beyond categorization issues to instructional intervention issues. Educators' time could be better spent in determining how to teach individual students by monitoring the effectiveness of instruction for the student's progress and performance. The variability within each of the handicap groups on the instructional environment measure suggests to us a need to attend more fully to individual differences. There are handicapped students and each handicapped student's instructional experience is unique. Educators need to be concerned about improving student aptitudes for learning through proper use of time for <u>each</u> student.

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